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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Artcle 36 and Rule 70)

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Applicant's or agent's file reference XP12253-PCT	FOR FURTHER ACTION SeeNotificationofTransmittalofInternationalPreliminary Examination Report (Form PCT/IPEA/416)				
International application No.	International filing date(day/m	onth/year)	Priority date (day/month/y	ear)	
PCT/KR2003/002283	28 OCTOBER 2003 (28	8.10.2003)	30 OCTOBER 2002 (30.	10.2002)	
International Patent Classification (IPC)	or national classification and II	PC.			
IPC7 H04M 1/23		•			
Applicant					
TIMESPACE SYSTEM CO., I	TD. et al				
This international preliminary example and is transmitted to the applicant.	amination report has been prepactoring to Article 36.	pared by this Inte	rnational Preliminary Exami	ning Authority	
2. This REPORT consists of a total of	of sheets, incl	uding this cover sl	heet.	• •	
This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).					
These annexes consist of a total of16sheets.					
3. This report contains indications re	elating to the following items:				
I X Basis of the report					
II Priority					
	of opinion with regard to novelt	v. inventive sten	and industrial applicability		
IV Lack of unity of inv		y, mvomivo otop	and moderal approachity		
1 ,				- 1 *1*4	
	t under Article 35(2) with regar ations supporting such statemen		intive step or industrial applic	ability;	
VI Certain documents cited					
VII Certain defects in the international application					
		0			
VIII Certain observations on the international application					
	•				
Date of submission of the demand	Dat	e of completion o	of this report		
27 MAY 2004 (27	.05.2004)	13 JANUAF	RY 2005 (13.01.2005)		
Name and mailing address of the IPEA/	KR Au	thorized officer			
Korean Intellectual Property Office 920 Dunsan-dong, Seo-gu, Daejeon 302-701, Republic of Korea		SHIN, Jun Ho		自然到	
Facsimile No. 82-42-472-7140		ephone No. 82-4	12-481-8129	Marian	



INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International aplication No.

PCT/KR2003/002283

I.	Basis	of the report				
1.	With	regard to the elements of the international application:*				
		the international application as originally filed				
	X	the description:				
		pages 1-13 15-17 pages 14 -1	, as originally filed , filed with the demand			
		pages , filed with the letter of	, med with the demand			
	X	the claims:				
	<u> </u>	pages	, as originally filed			
			er with any statment) under Article 19			
		pages 18-32 , filed with the letter of	, filed with the demand 13.12.2003			
	X	the drawings:				
		pages 1/6 - 6/6	, as originally filed			
		pages				
		pages, filed with the letter of				
	Ш	the sequence listing part of the description: pages	, as originally filed			
		pages	, as originally fried			
•		pages, filed with the letter of				
2:	the i	in regard to the language, all the elements marked above were available or furnished to international application was filed, unless otherwise indicated under this item. se elements were available or furnished to this Authority in the following language the language of a translation furnished for the purposes of international search (und the language of publication of the international application (under Rule 48.3(b)). the language of the translation furnished for the purposes of international prelimin or 55.3).	English which is er Rule 23.1(b)).			
3.	Win	With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:				
		contained inthe international application in written form.				
		filed together with the international application in computer readable form.				
		furnished subsequently to this Authority in written form.				
		furnished subsequently to this Authority in computer readable form				
		The statement that the subsequently furnished written sequence listing does	not go beyond the disc losure in the			
		international applicationas as filed has been furinshed. The statement that the information recorded in computer readable form is identibeen furnished.	cal to the written sequence listing has			
4.	X	The amendments have resulted in the cancellation of:				
		the description, pages				
	•	X the claims, Nos. 3, 4, 11, 12				
		the drawings, sheets				
5.		This report has been established as if (some of) the amendments had not been n go beyond the disclosure as filed, as indicated in the Supplemental Box(Rule 70.2).	nade, since they have been considered to 2(c)).**			
*	in th	acement sheets which have been furnished to the receiving Office in response to an in is opinion as "originally filed." and are not annexed to this report since they do no 70.17).	rvitation under Article 14 are referred to ot contain amendments (Rules 70.16			
*	** Any replacement sheet containing such amendments must be referred to under item I and annexed to this report.					

INTERNATIONAL PRELIMINARY EXAMINATION

International aplication No.
PCT/KR2003/002283

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1.	Statement			
	Novelty (N)	Claims	1, 2, 5-10, 13, 14	YES
		Claims	NONE	NO
	Inventive step (IS) Claim		1, 2, 5-10, 13, 14	YES
		Claims	NONE	NO
	Industrial applicability (IA)	Claims .	1, 2, 5-10, 13, 14	yes
		Claims	NONE	N0

2. Citations and explanations (Rule 70.7)

1. NOVELTY AND INVENTIVE STEP

Reference is made to the following documents

D1 : KR 2001-54288 A (2 July 2001)
D2 : KR 2002-55883 A (10 July 2002)

D1 discloses a character input device using basic sentence patterns. The device is composed of a basic sentence pattern input part, a character recognition part and a character output part.

D2 discloses a keyboard unit which includes each input key for separating a grapheme as 10 basic sentences used in consonants and vowels of Hangul and alphabets of English in common and inputting each basic sentence. A character recognizing unit has a phoneme combining module for combining electric signals generated by the click of input keys of the keyboard unit, recognizing the combined electric signal as one basic phoneme through a phoneme recognizing unit, combining the recognized basic phonemes, and generating a syllable.

The subject matter of claim 1 differs from D1 and D2 in the shape of extracted basic figures which are marked on the keypad. Some of the extracted basic figures in claim 1 comprise solid lines and dot lines, which make it easy to input "B", "D", "P", "V", "U", "X", "J", "Z". Therefore, the subject matter of claim 1 is considered to have novelty and an inventive step.

Claim 10 relates to a method using the apparatus of claim 1. Therefore claim 10 is considered to have novelty and an inventive step.

Since claims 2,5-9,13,14 are dependant claims, they are also considered to have novelty and an inventive step.

2. INDUSTRIAL APPLICABILITY

The subject matter of claims 1,2,5-10,13,14 is considered to be industrially applicable.

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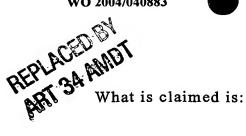
Capital letter "O" is coded by the basis "

Capital letter "O" is coded by the basis "

Capital letter "O" is coded by the basis "

Capital letter "

Capital capital letter "O" is coded by the basic figure O. If the input key 3 and the input key 3 are sequentially pressed (i.e., if the input key 3 are successively pressed twice), the alphabet capital letter "O" is coded by the basic figure P. If the input key 8 and the input key 7 are sequentially pressed (i.e., by the combination of the basic figures O and \), the alphabet capital letter "Q" is coded. If the input key 3 and the input key 7 are sequentially pressed (i.e., by the combination of the basic figures P and \), the alphabet capital letter "R" is coded. If the input key 4 and the input key 6 are sequentially pressed (i.e., by the combination of the basic figures C and), the alphabet capital letter "S" is coded. If the input key 2 and the input key 5 are sequentially pressed (i.e., by the combination of the basic figures - and I), the alphabet capital letter "T" is coded. If the input key 8 and the input key 5 are sequentially pressed (i.e., by the combination of the basic figures O and I), the 15 alphabet capital letter "U" is coded. If the input key 7 and the input key 9 are sequentially pressed (i.e., by the combination of the basic figures and Z), the alphabet capital letter "V" is coded. If the input key 7 and the input key 1 are sequentially pressed (i.e., by the combination of the basic figures \setminus and N), the alphabet capital letter "W" is coded. If the 20 input key 9 and the input key 7 are sequentially pressed (i.e., by the combination of the basic figures Z and \mathcal{I}) or if the input key 9 and the input key 7 are sequentially pressed (i.e., by the combination of the basic figures 2 and C), the alphabet capital letter "X" is coded. If the input key 7 and the input key 0 are sequentially pressed (i.e., by the 25 combination of the basic figures $^{\setminus}$ and J) or if the input key 8 and the input key 0 are sequentially pressed (i.e., by the combination of the basic figures O and J), the alphabet capital letter "Y" is coded. If the input



- 1. An alphabet input apparatus comprising:
- a key input part having input keys on which predetermined 5 number of basic figures extracted by analyzing shapes of alphabet capital letters are engraved;

a database part for storing alphabet information coded by a combination of two input key code values sequentially generated by the key input part; and

a character determination part for, when a code value is received from the key input part, sequentially extracting respective two input key code values to determine an alphabet corresponding to a permutation of the extracted code values from the alphabet information stored in the database part.

The alphabet input apparatus of claim 1, further comprising 2. a character display part for displaying an alphabet determined at the character determination part.

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- 3. The alphabet input apparatus of claim 1, wherein the key input part has 10 input keys.
- 4. The alphabet input apparatus of claim 3, wherein the basic figures allocated to the 10 input keys are N, -, P, C, I, O, 25 $Z_{, and} J_{.}$



5. The alphabet input apparatus of claim 4, wherein the database part stores information:

coding an alphabet capital letter "A" by a permutation of code values N and -;

coding an alphabet capital letter "B" by a permutation of code values P and O:

coding an alphabet capital letter "C" by a permutation of code values C and C;

coding an alphabet capital letter "D" by a permutation of code values I and D;

coding an alphabet capital letter "E" by a permutation of code values C and -;

coding an alphabet capital letter "F" by a permutation of code values - and P;

coding an alphabet capital letter "G" by a permutation of code values C and J:

· coding an alphabet capital letter "H" by a permutation of code values P and I;

coding an alphabet capital letter "I" by a permutation of code values I and I;

coding an alphabet capital letter "J" by a permutation of code values J and J;

coding an alphabet capital letter "K" by a permutation of code values I and C;

coding an alphabet capital letter "L" by a permutation of code values I and -;

coding an alphabet capital letter "M" by a permutation of code



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coding an alphabet capital letter "N" by a permutation of code values N and N;

coding an alphabet capital letter "O" by a permutation of code values O and O;

coding an alphabet capital letter "P" by a permutation of code values P and P;

coding an alphabet capital letter "Q" by a permutation of code values O and \;

coding an alphabet capital letter "R" by a permutation of code values P and \;

coding an alphabet capital letter "S" by a permutation of code values C and D;

coding an alphabet capital letter "T" by a permutation of code values - and I;

coding an alphabet capital letter "U" by a permutation of code values O and I;

coding an alphabet capital letter "V" by a permutation of code values \setminus and Z;

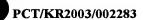
coding an alphabet capital letter "W" by a permutation of code values \setminus and N;

values Z and \ or a permutation of code values > and C;

coding an alphabet capital letter "Y" by a permutation of code values \setminus and J or a permutation of code values O and J; and

coding an alphabet capital letter "Z" by a permutation of code values \mathbf{Z} and \mathbf{Z} .

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6. The alphabet input apparatus of claim 4, wherein the database part stores information:

coding an alphabet small letter "a" by a permutation of code values C and \;

coding an alphabet small letter "b" by a permutation of code values I and D;

coding an alphabet small letter "c" by a permutation of code values C and C;

coding an alphabet small letter "d" by a permutation of code values C and I;

coding an alphabet small letter "e" by a permutation of code values - and C;

coding an alphabet small letter "f" by a permutation of code values Z and $\overline{}$ or a permutation of code values J and $\overline{}$;

coding an alphabet small letter "g" by a permutation of code values C and J;

coding an alphabet small letter "h" by a permutation of code values P and I;

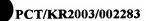
coding an alphabet small letter "i" by a permutation of code values I and I;

coding an alphabet small letter "j" by a permutation of code values J and J;

coding an alphabet small letter "k" by a permutation of code values I and C or a permutation of code values P and C;

coding an alphabet small letter "1" by a permutation of code values J and \setminus ;

coding an alphabet small letter "m" by a permutation of code



N values N and N or a permutation of code values N and N;

coding an alphabet small letter "n" by a permutation of code values N and N or a permutation of code values I and N;

coding an alphabet small letter "o" by a permutation of code O values O and O;

coding an alphabet small letter "p" by a permutation of code values P and P;

coding an alphabet small letter "q" by a permutation of code values C and Z;

coding an alphabet small letter "r" by a permutation of code values I and Z;

coding an alphabet small letter "s" by a permutation of code values C and D;

coding an alphabet small letter "t" by a permutation of code

15 values - and I;

coding an alphabet small letter "u" by a permutation of code values O and I;

coding an alphabet small letter "v" by a permutation of code values and Z or a permutation of code values O and -;

coding an alphabet small letter "w" by a permutation of code values \setminus and N;

coding an alphabet small letter "x" by a permutation of code values Z and \ or a permutation of code values \(\sigma_{\text{and}} \cdot \);

coding an alphabet small letter "y" by a permutation of code values \setminus and J or a permutation of code values O and J; and

coding an alphabet small letter "z" by a permutation of code values Z and Z.



- 7. The alphabet input method of claim 1, wherein the key input part further includes a shift key for shifting a capital letter to a small letter.
- 5 8. The alphabet input apparatus of claim 8, wherein the basic figures allocated to the input keys are N, -, P, C, I, P, N, O, Z, and J.
- 9. The alphabet input apparatus of claim 8, wherein the database part stores information: coding an alphabet capital letter "A" by a permutation of code values N

and -;

coding an alphabet capital letter "B" by a permutation of code values P and \supset ;

coding an alphabet capital letter "C" by a permutation of code values C and C;

coding an alphabet capital letter "D" by a permutation of code values I and D;

coding an alphabet capital letter "E" by a permutation of code values C and -;

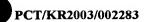
coding an alphabet capital letter "F" by a permutation of code values - and P;

coding an alphabet capital letter "G" by a permutation of code values C and J;

coding an alphabet capital letter "H" by a permutation of code values P and I;

coding an alphabet capital letter "I" by a permutation of code

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values I and I;

coding an alphabet capital letter "J" by a permutation of code values J and J;

coding an alphabet capital letter "K" by a permutation of code

values I and C;

coding an alphabet capital letter "L" by a permutation of code values I and -;

coding an alphabet capital letter "M" by a permutation of code values N and γ ;

coding an alphabet capital letter "N" by a permutation of code values N and N;

coding an alphabet capital letter "O" by a permutation of code values $O_{\rm and} O_{\rm i}$

coding an alphabet capital letter "P" by a permutation of code values P and P;

coding an alphabet capital letter "Q" by a permutation of code values O and \setminus ;

coding an alphabet capital letter "R" by a permutation of code values P and \searrow ;

coding an alphabet capital letter "S" by a permutation of code values C and D;

coding an alphabet capital letter "T" by a permutation of code values - and I;

coding an alphabet capital letter "U" by a permutation of code values O and I;

coding an alphabet capital letter "V" by a permutation of code values \setminus and Z;

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coding an alphabet capital letter "W" by a permutation of code values \setminus and Λ ;

coding an alphabet capital letter "X" by a permutation of code values Z and \(\) or a permutation of code values \(\) and \(\);

coding an alphabet capital letter "Y" by a permutation of code values \setminus and J or a permutation of code values O and J; and

coding an alphabet capital letter "Z" by a permutation of code values \mathbf{Z} and \mathbf{Z} ,

and stores information:

coding an alphabet small letter "a" by a permutation of code values C and \;

coding an alphabet small letter "b" by a permutation of code values I and D;

coding an alphabet small letter "c" by a permutation of code values C and C;

coding an alphabet small letter "d" by a permutation of code values C and I;

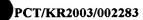
coding an alphabet small letter "e" by a permutation of code values - and C;

coding an alphabet small letter "f" by a permutation of code values Z and $\overline{}$ or a permutation of code values J and $\overline{}$;

coding an alphabet small letter "g" by a permutation of code values C and J;

coding an alphabet small letter "h" by a permutation of code values P and I;

coding an alphabet small letter "i" by a permutation of code values I and I;



coding an alphabet small letter "j" by a permutation of code values J and J;

coding an alphabet small letter "k" by a permutation of code values I and C or a permutation of code values P and C;

coding an alphabet small letter "l" by a permutation of code values J and \;

coding an alphabet small letter "m" by a permutation of code values N and I or a permutation of code values N and I;

coding an alphabet small letter "n" by a permutation of code values N and N or a permutation of code values I and N;

coding an alphabet small letter "o" by a permutation of code values O and O;

coding an alphabet small letter "p" by a permutation of code values P and P;

coding an alphabet small letter "q" by a permutation of code values C and Z;

coding an alphabet small letter "r" by a permutation of code values I and Z;

coding an alphabet small letter "s" by a permutation of code

values C and D;

coding an alphabet small letter "t" by a permutation of code values — and I;

coding an alphabet small letter "u" by a permutation of code values O and I;

coding an alphabet small letter "v" by a permutation of code values and Z or a permutation of code values O and -;

coding an alphabet small letter "w" by a permutation of code

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34 Figure 1 and N;

coding an alphabet small letter "x" by a permutation of code values Z and \(\) or a permutation of code values \(\) and \(\);

coding an alphabet small letter "y" by a permutation of code values \setminus and J or a permutation of code values O and J; and

coding an alphabet small letter "z" by a permutation of code values \mathbf{Z} and \mathbf{Z} .

wherein one of the capital latter coding information and the small letter coding information is selected by a shift key code value generated by the shift key.

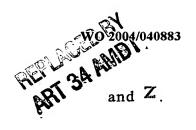
10. An alphabet input method comprising:

generating first and second input key code values from input keys to which predetermined number of basic figures extracted by analyzing shapes of alphabet capital letters are allocated, respectively;

setting a generation order of the two input key code values by a permutation of an input key code value; and

determining an alphabet corresponding to a permutation of an input key code value generated from the input keys by reference to alphabet information coded by the permutation of the two input key code values.

- 11. The alphabet input method of claim 10, wherein the key input part has 10 input keys.
- 12. The alphabet input method of claim 11, wherein the basic figures allocated to the 10 input keys are N, -, P, C, I, O, O,



- 13. The alphabet input method of claim 12, wherein the database part stores information:
- coding an alphabet capital letter "A" by a permutation of code values N and -;

coding an alphabet capital letter "B" by a permutation of code values P and \supset :

coding an alphabet capital letter "C" by a permutation of code values C and C;

coding an alphabet capital letter "D" by a permutation of code values I and D;

coding an alphabet capital letter "E" by a permutation of code values C and -;

coding an alphabet capital letter "F" by a permutation of code values - and P;

coding an alphabet capital letter "G" by a permutation of code values C and J;

coding an alphabet capital letter "H" by a permutation of code values P and I;

coding an alphabet capital letter "I" by a permutation of code values I and I;

coding an alphabet capital letter "J" by a permutation of code values J and J;

coding an alphabet capital letter "K" by a permutation of code values I and C;

coding an alphabet capital letter "L" by a permutation of code

Talues I and -;

coding an alphabet capital letter "M" by a permutation of code values N and γ ;

coding an alphabet capital letter "N" by a permutation of code values N and N;

coding an alphabet capital letter "O" by a permutation of code values $O_{and} O_{;}$

coding an alphabet capital letter "P" by a permutation of code values P and P;

coding an alphabet capital letter "Q" by a permutation of code values O and \;

coding an alphabet capital letter "R" by a permutation of code values P and \searrow ;

coding an alphabet capital letter "S" by a permutation of code

values C and D;

coding an alphabet capital letter "T" by a permutation of code values - and I;

coding an alphabet capital letter "U" by a permutation of code values O and I;

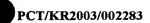
coding an alphabet capital letter "V" by a permutation of code values \ and \ Z;

coding an alphabet capital letter "W" by a permutation of code values \setminus and M;

coding an alphabet capital letter "X" by a permutation of code

values Z and \ or a permutation of code values \ \forall \ and \ C;

coding an alphabet capital letter "Y" by a permutation of code values \setminus and J or a permutation of code values O and J; and



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The alphabet input method of claim 12, wherein the database part stores information: 5

coding an alphabet small letter "a" by a permutation of code values C and \;

coding an alphabet small letter "b" by a permutation of code values I and D;

coding an alphabet small letter "c" by a permutation of code 10 values C and C;

coding an alphabet small letter "d" by a permutation of code values C and I;

coding an alphabet small letter "e" by a permutation of code values - and C;

coding an alphabet small letter "f" by a permutation of code values Z and - or a permutation of code values J and -;

coding an alphabet small letter "g" by a permutation of code values C and J;

coding an alphabet small letter "h" by a permutation of code 20 values P and I;

coding an alphabet small letter "i" by a permutation of code values I and I;

coding an alphabet small letter "j" by a permutation of code values J and J; 25

coding an alphabet small letter "k" by a permutation of code values I and C or a permutation of code values P and \;

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coding an alphabet small letter "1" by a permutation of code values J and \setminus ;

coding an alphabet small letter "m" by a permutation of code values N and N and N;

coding an alphabet small letter "n" by a permutation of code values N and N or a permutation of code values I and N;

coding an alphabet small letter "o" by a permutation of code values $O_{and} O_{\vdots}$

coding an alphabet small letter "p" by a permutation of code values P and P;

coding an alphabet small letter "q" by a permutation of code values C and Z;

coding an alphabet small letter "r" by a permutation of code values I and Z;

coding an alphabet small letter "s" by a permutation of code values C and D;

coding an alphabet small letter "t" by a permutation of code values - and I;

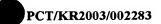
coding an alphabet small letter "u" by a permutation of code values O and I;

coding an alphabet small letter "v" by a permutation of code values \(^{\mathbb{Z}}\) and \(^{\mathbb{Z}}\) or a permutation of code values \(^{\mathbb{O}}\) and \(^{-\mathbb{C}}\);

coding an alphabet small letter "w" by a permutation of code values \setminus and N;

coding an alphabet small letter "x" by a permutation of code values Z and \(\) or a permutation of code values \(\) and \(\);

coding an alphabet small letter "y" by a permutation of code



REF. 34 AND 883 values \setminus and J or a permutation of code values O and J; and coding an alphabet small letter "z" by a permutation of code values Z and Z.